



TNRCC TECHNICAL GUIDANCE

MUNICIPAL SOLID WASTE DIVISION

SUBJECT: Suggested Analytical Testing for Special Wastes Disposal

Suggested analytical testing requirement for disposal of special waste at municipal landfills permitted by the Texas Natural Resource Conservation Commission (TNRCC). This testing should take into consideration that generators of special waste can use process knowledge. See the last page for explanation of asterisks and abbreviations.

Description of Waste Items	Treatment or Testing Suggested
Abrasives (sandblasting wastes, steel shots, iron shot dust, spent blast media)	determine what was being blasted, TCLP Inorganic* (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review)
Asbestos (friable and nonfriable) Regulated Asbestos Containing Material (RACM) >1% Asbestos	None , follow TNRCC disposal guideline in 30 TAC §330.136
Asphaltic material (not weathered)	do hazardous waste determination,* TCLP organic not to exceed in Appendix 1, Table 1 of Subchapter R,* TCLP semi-volatile (method 8270 or 8250), recycle!
Asphaltic material (weathered)	ASTM D2887 or D3710, recycle!
Coal ash	TCLP Inorganic* and Dioxins (not to exceed the level in Appendix 1, Table 1 of Subchapter R**)
Commercial garbage and rubbish (uncontaminated)	None
Construction debris (lead base paint contaminated)	hazardous waste determination, TCLP Inorganic* (not to exceed in Appendix 1, Table 1 of Subchapter R**, case-by-case review)
Cooling tower wastes	TCLP Inorganic* (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review)
Creosote wood floor blocks	TPH (<1500 ppm), PNAs (method 8310 or 8270 for hazardous waste determination), case-by-case review
Cured epoxy resin	None
Baghouse dust	TCLP Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review)
Beer	None , follow TNRCC disposal guideline
Electroplating wastes	TCLP Inorganic* (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, TPH (<1500 ppm), pH (≤ 2.0 or ≥ 12.5), case-by-case review)
Filter cake	TCLP Inorganic* (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, TPH, case-by-case review)

Texas Natural Resource Conservation Commission • P O Box 13087 • Austin, Texas • 78711-3087 (512) 239-6781



Description of Waste Items	Treatment or Testing Suggested
Floor sweepings	do hazardous waste determination, TPH, case-by-case review
Fluorescent lamps	hazardous waste determination for TCLP mercury (<0.2 mg/l)*, recycle!
Fly ash	TCLP Inorganic * and Dioxins(not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review
Food waste	None , follow TNRCC disposal guideline, compost!
Fuel filter waste fuel	TCLP Lead (<1.5 mg/l), BTEX (<150 mg/kg (ppm) *), TPH (<1500 ppm), alternate
Grease trap waste	* TCLP Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, paint filter liquid test, compost!
Grit trap wastes	TPH (<1500 ppm), * TCLP lead (<1.5 mg/l), * TCLP benzene (<0.5 mg/l), paint filter liquid test, case-by-case review
Incinerator ash	TCLP Inorganic * (not to exceed the level in Appendix 1, Table 1 of Subchapter R**
Insulation (nonasbestos)	None
Light ballast	PCBs (not to exceed 50 ppm)
Mercury salts	* TCLP Mercury (<0.2 mg/l), reactivity test, pH (<2 or >12.5)
Molecular sieve	TPH (<1500 ppm) and * TCLP benzene (<0.5 mg/l)
Oil filters from internal combustion engines	Prohibited from land disposal, see 30 TAC §330.136 (c), recycle! , alternate fuel
Paint booth filters	MSDS for paints, TCLP Inorganic * (not to exceed in Appendix 1, Table 1 of Subchapter R**, case-by-case review
Paint-contaminated material	TPH (<1500 ppm), TCLP metals, * TCLP volatiles and semi- volatiles * (not to exceed the level in Appendix 1, Table 1 of Subchapter R**
PCB > 50 ppm (<i>small</i> nonleaking capacitors from industrial facility)	None , TNRCC does not approve the disposal of a nonPCB-containing electrical components. TNRCC allows small PCB ballast generated by routine maintenance to be disposed of in Type 1 municipal landfills as long as the total weight does not exceed 3 lbs. (pounds of ballast per day)
Pesticide containers	None if it is triple rinsed and rendered unusable, recycle!
Railroad ties and telephone poles (used)	None
Railroad ties and telephone poles (new)	TPH (<1500 ppm), cresol test (<200 mg/l (milligrams per liter))
Sludges from industrial process	* Full TCLP (not to exceed the level in Appendix 1, Table 1 of Subchapter R, paint filter liquid test, case-by-case review
Sludges from grinding	TPH (<1500 ppm) base on process knowledge, * TCLP Organic and Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, paint filter liquid test, case-by-case review
Sludges from zinc phosphate (electroplating process)	* Full TCLP (not to exceed the level in Appendix 1, Table 1 of Subchapter R (**), * TCLP benzene, flash point (>140 degrees), paint filter liquid test, case-by-case review
Soil contaminated with automotive gasoline	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), * TCLP lead (<1.5 mg/l), recycle! , remediate

Description of Waste Items	Treatment or Testing Suggested
Soil contaminated with diesel fuel	TPH (600 ppm), * TCLP benzene (<0.5 mg/l) recycle! , remediate
Soil contaminated with home heating oil	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), remediate, recycle!
Soil contaminated with hydraulic oil	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), * TCLP Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, TOX (<50 mg/kg), PCB (<50 mg/kg), recycle! , remediate
Soil contaminated with jet fuel	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), remediate
Soil contaminated with kerosene	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), remediate
Soil contaminated with mineral spirits	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), remediate
Soil contaminated with motor oil	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), * TCLP lead (<1.5 mg/l), TOX (<50 mg/kg), recycle! , remediate
Soil contaminated with natural gas condensate	Full TCLP * (not to exceed the level in Appendix 1, Table 1 of Subchapter R), TPH (<600 ppm), remediate
Soil contaminated with other petroleum product	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), * TCLP lead (<1.5 mg/l), case-by-case review, recycle! , remediate
Soil contaminated with other waste oil	TPH (<600 ppm),* * TCLP benzene (<0.5 mg/l), TOX (<50 mg/kg), PCB (<50 mg/kg), * TCLP Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review, recycle! , remediate
Soil contaminated with transformer oil	TPH (<600 ppm), * TCLP benzene (<0.5 mg/l), * TCLP Inorganic (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, TOX (<50 mg/kg), PCB (<50 mg/kg), recycle! , remediate
Soil contaminated with unknown substance	waste determination, pesticides, full TCLP* (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, * TCLP benzene (<0.5 mg/l), TPH (<600 ppm), PCB (<50 mg/kg), case-by-case review, recycle! , remediate
Sorbent materials	do a hazardous waste determination, TPH (<1500 ppm), * TCLP benzene (<0.05 mg/l), case-by-case review, recycle (burn for energy recovery)
Spent lead acid batteries	None , TNRCC does not approve the disposal of lead acid batteries into a municipal landfill. This waste is subject to General Prohibitions under the new rule 30 TAC §330.5 (e)(1) <i>and must be recycled.</i>
Tank sediments	Full TCLP * (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review
Wine	pH factor (≤ 2.0 or ≥ 12.5), may require neutralization
Wood chips case-by-case review	TCLP Inorganic * (not to exceed the level in Appendix 1, Table 1 of Subchapter R**, case-by-case review
Zinc dust	TCLP lead *, zinc ignitability test in water
	(Footnotes on back page)

- * A total analysis may be used as a screen prior to Toxicity Characteristic Leaching Procedure (TCLP). If a total analysis (i.e. Total Lead, Total Benzene, etc.) for screening exceeds the limits listed below, then TCLP must be performed and the TCLP results must not exceed the stated limits:

<u>Analyte</u>	<u>Total Limit</u>	<u>TCLP Limit</u>
Benzene	10 mg/kg	0.5 mg/L
Arsenic	36 mg/kg	1.8 mg/L
Barium	2000 mg/kg	100 mg/L
Cadmium (Cd)	10 mg/kg	0.5 mg/L
Chromium (Cr)	100 mg/kg	5.0 mg/L
Lead (Pb)	30 mg/kg	1.5 mg/L
Mercury (Hg)	4 mg/kg	0.2 mg/L
Selenium (Se)	20 mg/kg	1.0 mg/L
Silver (Ag)	100 mg/kg	5.0 mg/L
Xylene	140000 mg/kg	7000 mg/L

Results of the following analyses must be within the limits stated for landfill disposal in a municipal solid waste facility:

TPH	=	< 600 mg/kg (for soils in most landfills)
		< 1500 mg/kg (for soils in 30 specific landfills)
TOX	=	< 50 mg/kg
PCBs	=	< 50 mg/kg
PNAs	=	< 1500 ppm
Chlorides	=	< 3000 mg/kg
Sulfide	=	< 500 mg/kg (vapor) SW846 Method 376.1
Cyanide	=	< 250 mg/kg (vapor) SW846 Method 9010

- ** Approximately 75% of the special waste that is managed in Texas is generated by industrial generators. Although the generation of industrial waste is subject to the industrial and hazardous waste rules (Chapter 355), upon disposal into a municipal solid waste facility, the waste is subject to the municipal solid waste rules (Chapter 330). The same waste streams that are generated by a nonindustrial generator are also special waste. While evaluating the nature of a waste stream, TNRCC applies the values found in 30 TAC Chapter 335 Subchapter R, since these values are the best technical information currently available and the waste stream environmental impact is the same regardless of who generates it.

Abbreviations:

BTEX	-	Total Benzene (B), Total Toluene(T), Total Ethylbenzene (E), Total Xylene (X)
TPH	-	Total Petroleum Hydrocarbon
TCLP	-	Toxicity Characteristic Leaching Procedure
TOX	-	Total Organic Halides (X = Fluorine, Chlorine, Bromine, or Iodine)
PCBs	-	Polychlorinated Biphenyls
PNAs	-	Polynuclear Aromatics
MSDS	-	Material Safety Data Sheet(s)
mg/kg	-	milligrams per kilogram
mg/l	-	milligrams per liter
ppm	-	parts per million
ur/hr	-	microRoentgen
Subchapter R	-	Refers to Title 30 Texas Administrative Code (TAC)
ASTM	-	American Society Testing Materials

NOTE: State law considers landfill disposal as the least desirable method of disposal. State policy established a waste recycling rate of 40% by 1994 (Senate Bill 1340, 72nd Legislature, Regular Session). This requires recycling of all metal items whenever possible.

The TNRCC is an equal opportunity/affirmative action employer. The agency does not allow discrimination on the basis of race, color, religion, national origin, sex, disability, age, sexual orientation or veteran status. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting the TNRCC at (512)239-0010, Fax 239-0055, or 1-800-RELAY-TX (TDD), or by writing P.O. Box 13087, Austin, TX 78711-3087.